

11.0 AIRPORT TRACT



11.1 Affected Environment

11.1.1 Land Use

The Airport Tract consists of approximately 205 acres (83 hectares) and is located on the northeastern edge of the mesa above Pueblo Canyon and to the east of the Los Alamos townsite (see Figure 11.1.1-1, Airport Tract Layout). The bottom of Los Alamos Canyon to the south and the mesa's edge to the north define the tract's boundaries. The tract includes land on both sides of State Road 502, which serves as the main entrance to the community of Los Alamos.

Since 1948, the Airport Tract has primarily been used for commercial air transportation. Prior to that, the tract served as a landfill upon which the Los Alamos Airport was ultimately constructed. Other past activities at the tract included the use of portions of the tract for construction supply and storage. The area of the tract to the north side of East Road surrounding the Airport's runways and support buildings is primarily grassland. Areas to the south of East Road are

primarily covered in juniper-savannah with open shrub, grasslands, and wildflower areas. Areas of the tract to the south of East Road are adjacent to sensitive wildlife habitat and archeological sites.

Currently, the Airport handles both commercial and private air transportation, as well as emergency transport and support (for example, medical and fire response). Los Alamos County operates the Airport, under a lease agreement from the DOE (DOE 1998b). Directly to the west of the Airport and north of East Road is a single-family residential development (DOE 1998b). Directly to the east of the Airport is the Small Business Center Annex (on East Gate Drive), consisting of offices and other light commercial and retail land uses. Other land uses along East Road to the west and in reasonable proximity to the Airport include several churches, a public swimming facility, and a park (LAC 1998). Immediately to the north of the tract is a steep drop off the mesa's edge. Land on the south side of East Road is undeveloped area that serves as a buffer area for LANL operations.

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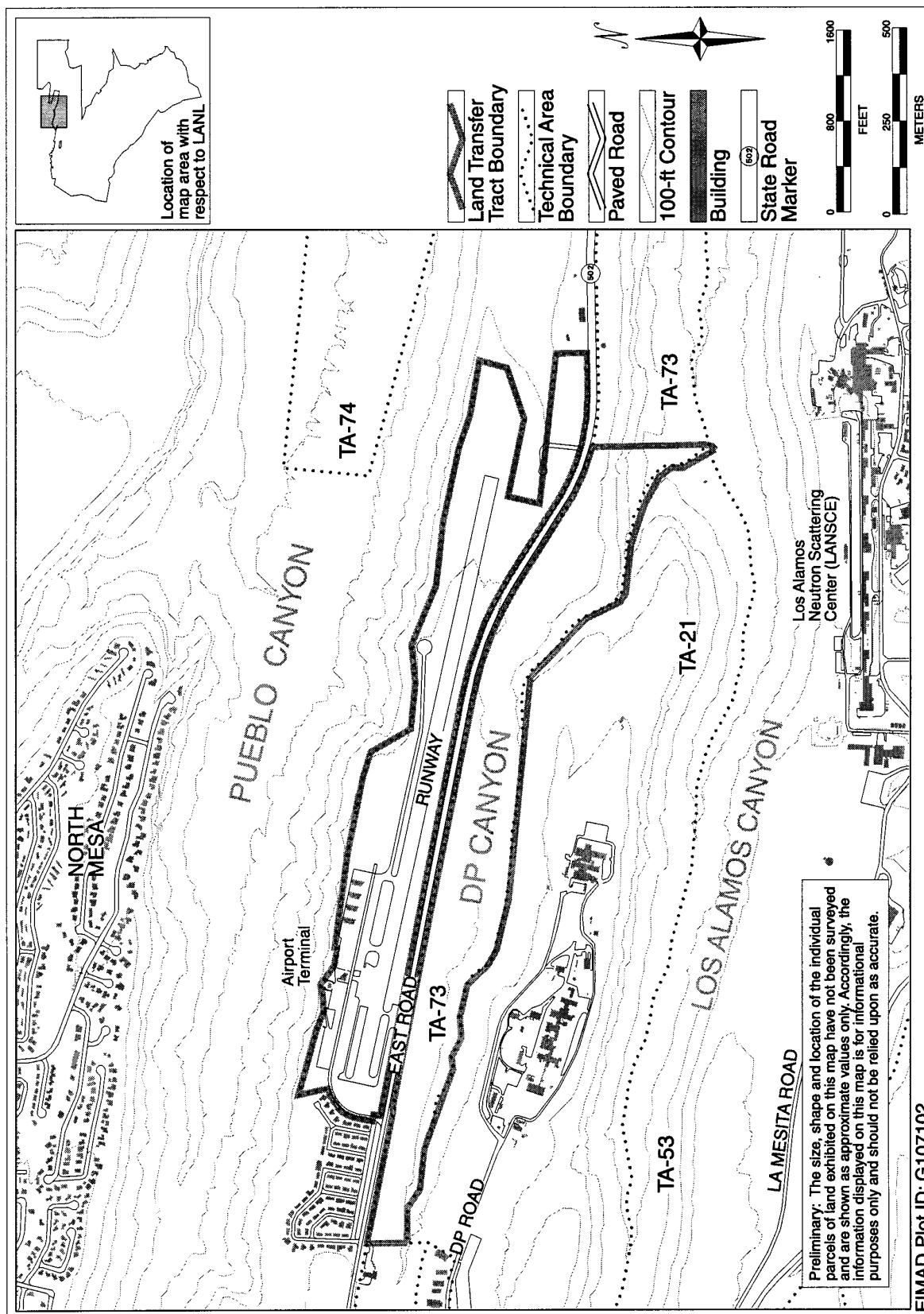


Figure 11.1.1-1. Airport Tract Layout.

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The DP Canyon crossover trail (see Figure 3.2.1-2 in Chapter 3) crosses portions of the tract located south of State Road 502 (LANL 1998c). No other recreational opportunities are associated with the Airport Tract.

Figure 11.1.1-2 shows the location of various environmental media monitoring stations on the subject land tract.

11.1.1.1 Environmental Restoration

The Airport Tract contains 24 potential release sites (PRSSs) within its boundaries and has another within 50 feet (15 meters) of the tract boundary. These PRSSs consist of five surface units, eight subsurface units, six outfalls, and six former material disposal areas (MDAs). Some sampling and characterization has been performed 19 of the 25 sites, and 2 have already been cleaned up. There also are four structures on the tract: the terminal building, a gas meter station, a storage building, and a storage shed. There are no other environmental restoration or decommissioning concerns at this tract.

Figure 11.1.1.1-1 shows areas with potential contamination issues (PCIs) within this tract, as well as areas with no known contamination. Only the southern tip of the tract appears to have no known contamination issues, although much of the tract has not yet been characterized. The areas to the south of East Road were formerly known as “contractors’ row,” and are suspected to contain substantial construction debris with potential contamination. As a result, PCI acreage is estimated to total 185 acres (75 hectares), almost the entire tract.

11.1.2 Transportation

The Los Alamos Airport is adjacent to East Road, which changes designation from State Road 502, a two-lane State highway entering the Los Alamos townsite from the east (see Figure 11.1.1-1). Current capacity of this road is approximately 2,200 passenger

cars per hour (pcph). Data provided by the County of Los Alamos show that East Road carried approximately 1,500 vehicles in the peak hour in September 1998. State traffic flow maps show that the average annual weekday traffic on East Road was 17,250 vehicles in 1996 near this location. As a general rule, when peak hour traffic is 10 percent of the average annual weekday traffic, a road is at or near its capacity. Using this rule, it appears that East Road is approaching full capacity at this location.

The level of service (LOS) determined for this section of East Road was LOS E, which is defined as operating conditions of maximum capacity. Applying the U.S. Census Bureau’s 1.5 percent annual growth rate to the existing traffic maintains the LOS at E in about 2018. However, it will degrade to LOS F, or traffic jam conditions, shortly after 2018. Widening State Road 502 and East Road to four lanes near the site will improve the level of service to LOS B (good operating conditions with stable traffic flow) in about 2018.

Under existing traffic volumes provided by the New Mexico State Highway and Transportation Department (NMSH&TD), State Road 502 east of the Airport operates at LOS E or F coming up the mesa, due to the mountainous terrain.

11.1.3 Infrastructure

Figure 11.1.3-1 shows the location of structures, roads, and utility lines for the Airport Tract. Industrial and security fence lines are shown on Figure 11.1.3-2. Operation of the Airport is provided by the County of Los Alamos. All utilities and structures are owned by the County, but the land is leased from the DOE. Development on the Airport Tract consists of the runway, taxiways, terminal, private hangars, parking, and associated facilities. East Road, a two-lane road, bisects the site and is separated from the airport runway by fencing. The site has all

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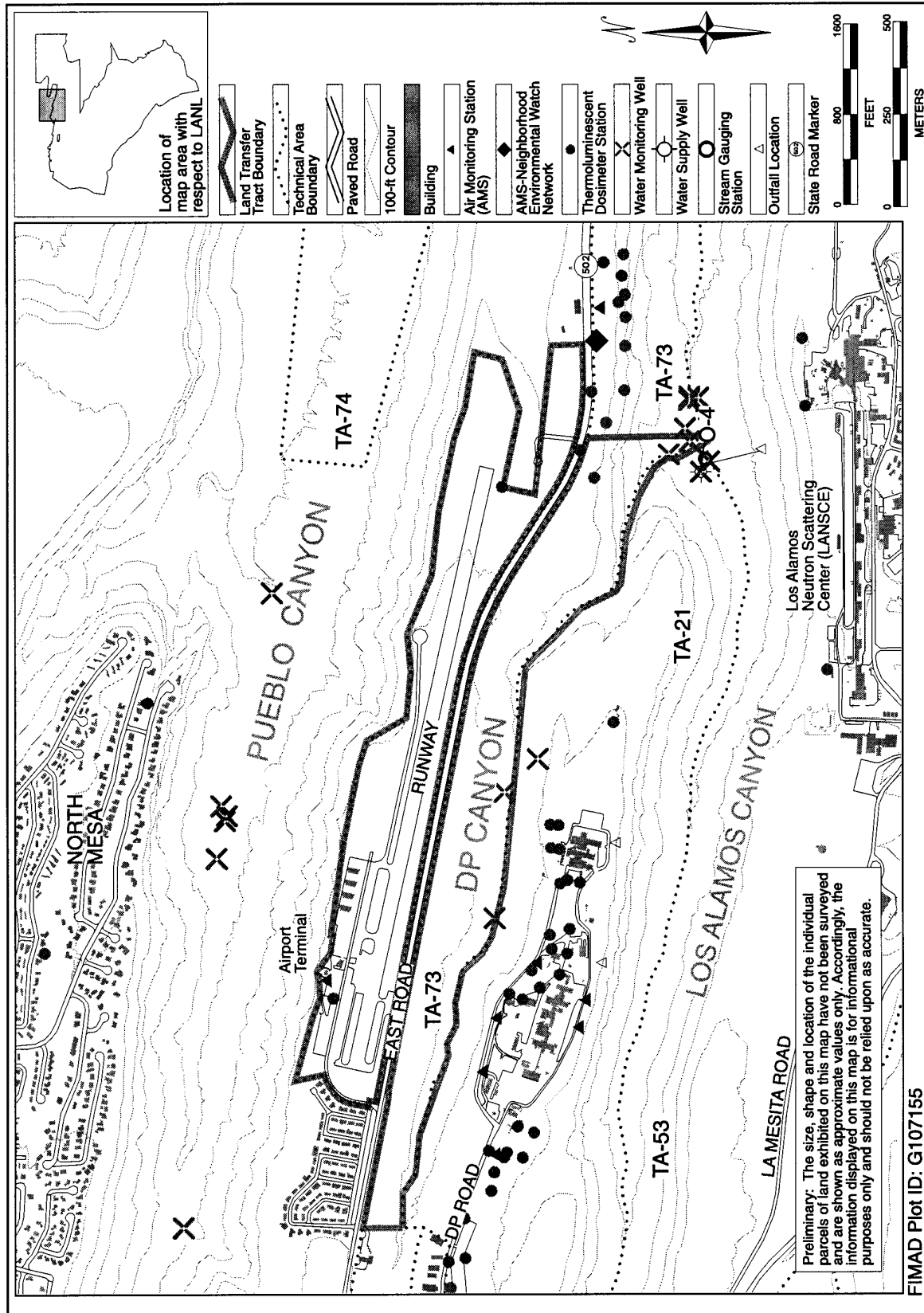


Figure 11.1.1-2. Airport Tract Monitoring and Outfall Locations.

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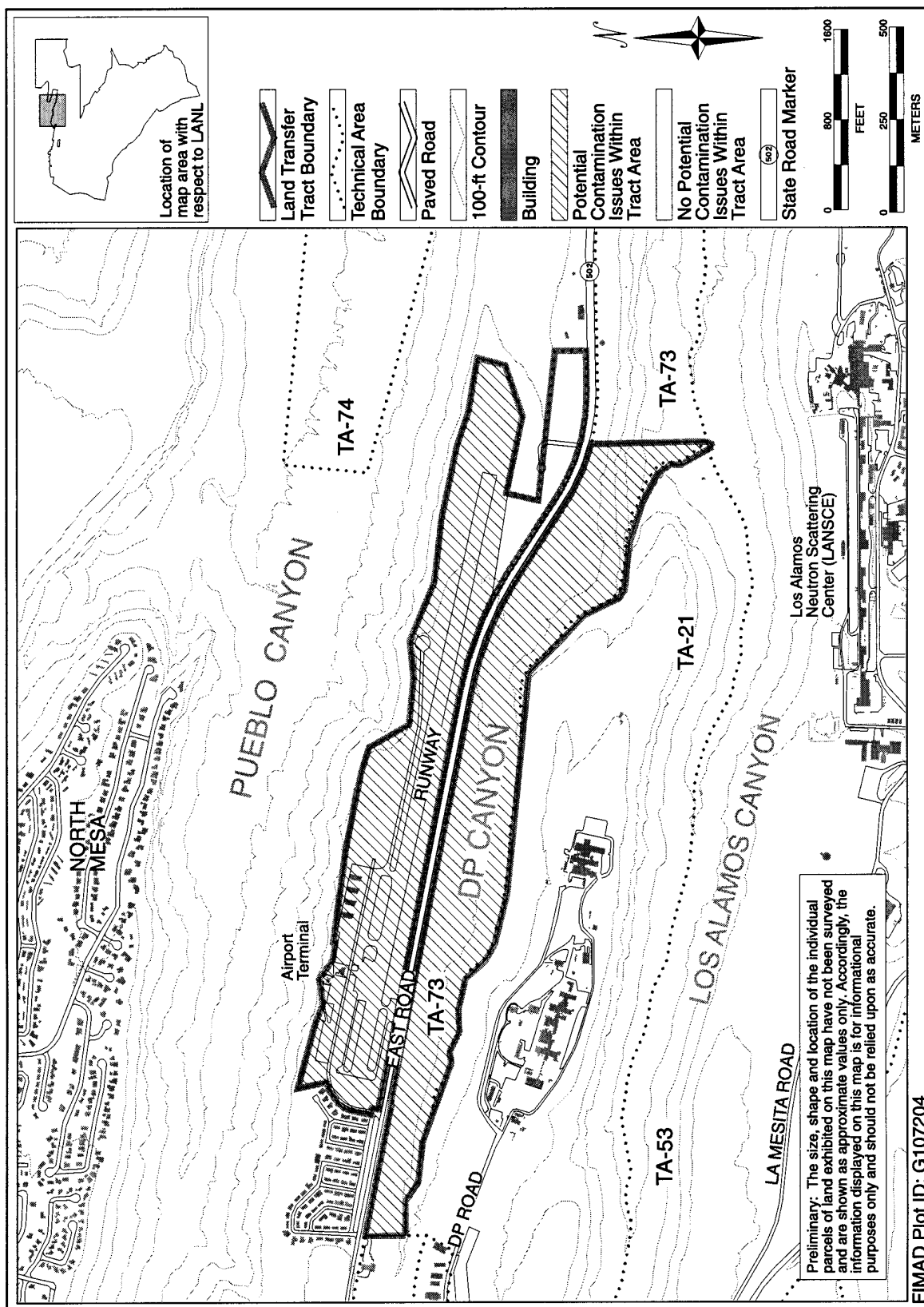


Figure 11.1.1.1-1. Airport Tract Potential Contamination Issue Areas.

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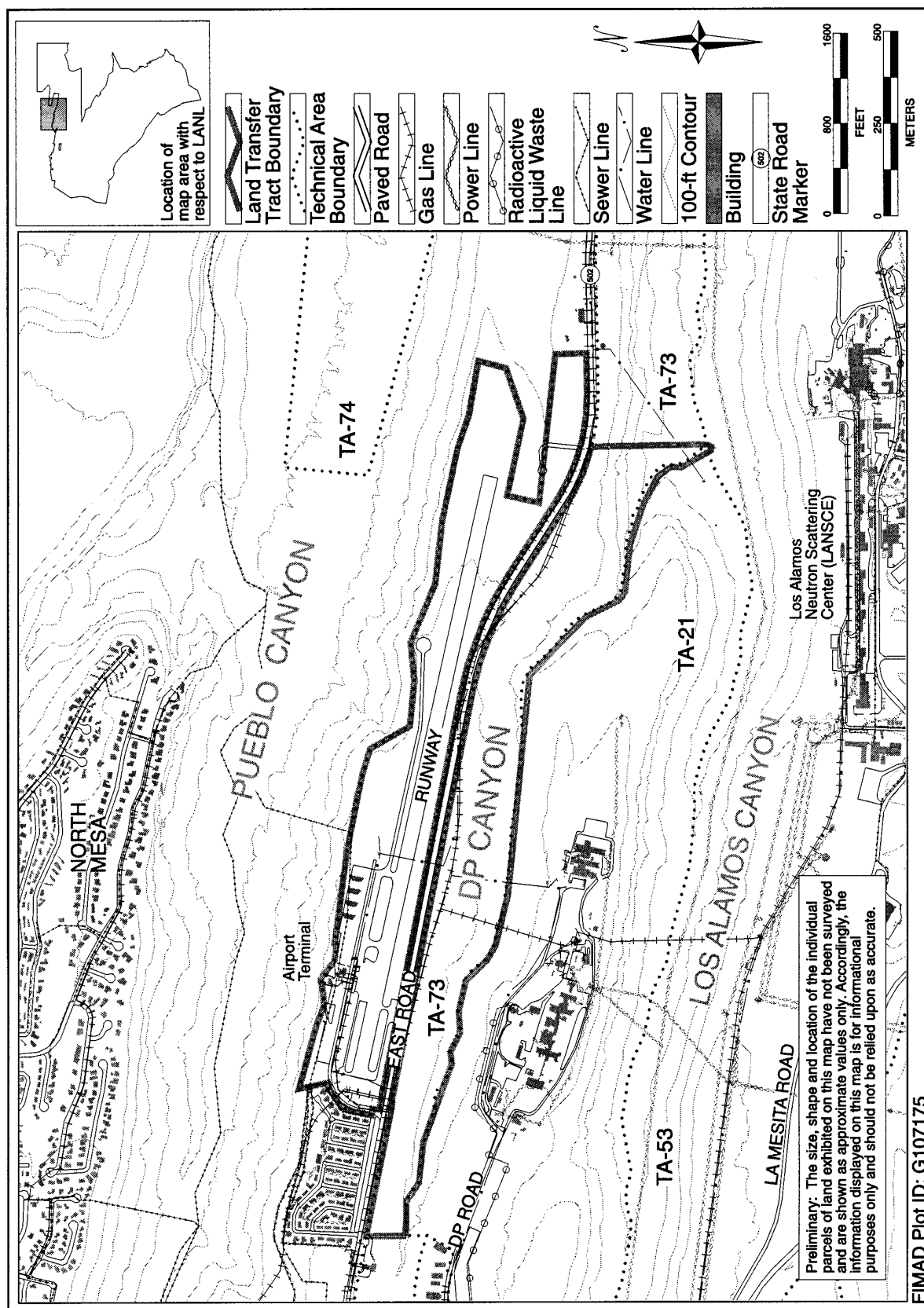


Figure 11.1.3-1. Airport Tract Utilities and Infrastructure.

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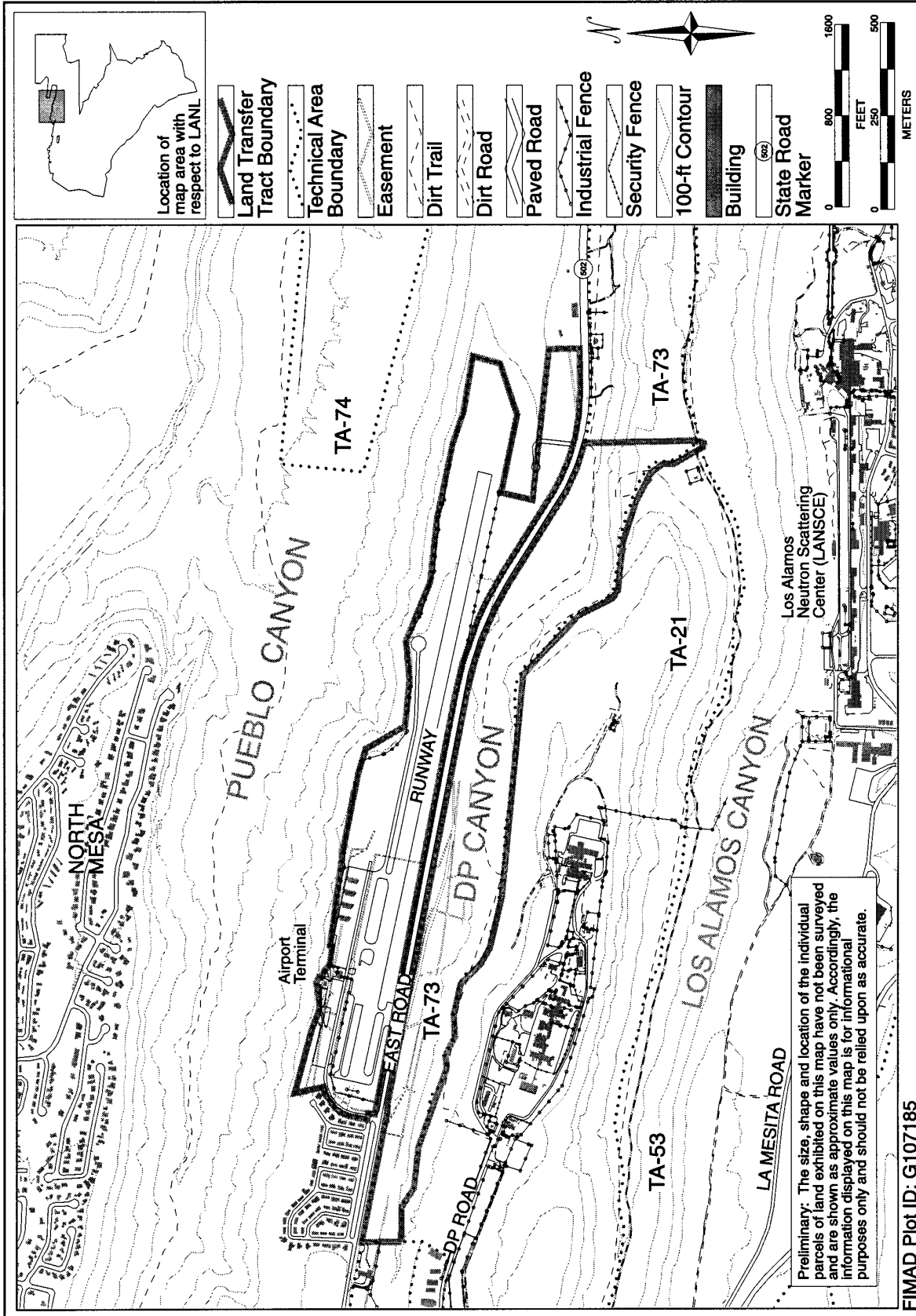


Figure 11.1.3-2. Airport Tract Industrial and Security Fence Lines.

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utilities available. This tract is not metered separately for any utilities, and no figures for current utility usage are available.

11.1.4 Noise

The Airport Tract lies adjacent to East Road. Vehicular traffic from the highway is the major source of ambient noise for this tract of land. The takeoff and landing of small airplanes contribute intermittently to noise levels. Ambient noise levels vary with distance from the highway. At the northern edges of Technical Area (TA) 73, the edge most distant from the highway, ambient noise levels are estimated to be less than 40 decibels, A-weighted (dBA). At the southern edge, along the highway, background levels are likely to be in the range of 60 to 70 dBA during the daytime.

11.1.5 Visual Resources

The Airport Tract includes the developed airport facility on the north side of East Road and the undeveloped vegetated area to the south of East Road. Views from the Airport Tract include views to the north across Pueblo Canyon and south across East Road to the undeveloped portion of this tract. Views of the Airport are mainly from East Road and from the subdivision adjacent to the west. This tract was analyzed by assigning two rating units to the tract based on the difference in the visual character with regard to manmade modifications on the north and south sides of East Road. The area north of East Road, Rating Unit 1, is developed for airport functions, while the area south of the road, Rating Unit 2, is undeveloped.

After scenic quality, distance zone, and sensitivity level components were combined using the Inventory Class Matrix, it was determined that the developed airport portions of the tract have moderate public value for visual resources, Scenic Class III, and the undeveloped portions of the tract have high

public value for visual resources, Scenic Class II.

11.1.6 Socioeconomics

The most meaningful economic region of influence (ROI) for all of the tracts is the regional setting described in Chapter 3 of this CT EIS. Labor and housing markets extend well beyond any of the tract boundaries affected by the proposed land transfer.

This tract consists of the Airport, a commercial air service operated by Los Alamos County under a lease agreement with the DOE. All employment on the tract is associated with the Airport.

11.1.7 Ecological Resources

The Airport Tract occupies the mesa top adjacent to and above Pueblo Canyon. The vegetation of the tract, covering approximately 60 percent of the land area, is primarily ponderosa pine forest; pinyon-juniper woodland; and open shrub, grassland, and wildflower areas. The remaining 40 percent of the area is developed as roadway, parking lots, runway, and buildings. The flora and fauna are typical of the region. There are no perennial surface water courses or floodplains within the tract. A small willow-dominated wetland exists in the bottom of DP Canyon near the top of the drainage. This wetland overlaps portions of the Airport and TA 21 Tracts. See Appendix D of this CT EIS for further description of the wetlands and floodplains. Foraging habitat is present for the bald eagle, Mexican spotted owl, and American peregrine falcon. Los Alamos Canyon and Pueblo Canyon areas of environmental interest (AEIs) overlap the Airport Tract for both the Mexican spotted owl and American peregrine falcon. Noise is generated from vehicle traffic utilizing the Airport and from State Road 502 and aircraft landings and takeoffs. The Airport Tract is lighted at night

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by security and commercial lighting at the Airport and by adjacent residential areas.

11.1.8 Cultural Resources

The Airport Tract was used from the Archaic period through the Nuclear Energy period. Prior to DOE use, this tract was part of the Ramon Vigil Spanish land grant. The ROI for this tract includes the land tract itself, plus nearby cultural resources located off the tract. For this tract, these nearby resources are located on LANL and privately held lands.

One hundred percent of the Airport Tract has been inventoried for historic and prehistoric cultural resources. Survey results indicate that there are five cultural sites within the tract, two of which are prehistoric and three are historic. Both of the prehistoric sites have been evaluated as eligible for the National Register of Historic Places (NRHP). The historic sites include two buildings and a trash scatter that may be associated with historic developments during the Nuclear Energy period. These buildings have been evaluated as eligible for the NRHP, and the trash scatter was evaluated as not eligible. There is a potential for unidentified resources, including subsurface archaeological deposits and unrecorded burials in the Airport Tract.

There are no known traditional cultural properties (TCPs) located within the Airport Tract. Consultations to identify TCP resources have not been conducted. TCPs may be identified during further consultations with Native American and Hispanic groups regarding the traditional uses of this tract. TCPs would not be anticipated in developed parts of the tract.

Additional information on the cultural resources of the Airport Tract is presented in Appendix E of this CT EIS.

11.1.9 Geology and Soils

The Airport Tract is located on the northeastern edge of the mesa above Pueblo

Canyon and to the east of the Los Alamos townsite (see Figure 11.1.1-1). Although heavily developed, the tract is underlain by the Hackroy sandy loam and steep rock outcrops along the canyon rim. Outcrops are the upper member of the Bandelier Tuff (Tshirege), typical of the Pajarito Plateau. No major surface faulting is evident in this tract.

11.1.10 Water Resources

The Airport Tract is located on the mesa top between Los Alamos and DP Canyons, and the northern and southern boundaries extend to the bottom of these canyons. Both canyons are ephemeral drainages in the vicinity of the tract. Both Los Alamos and DP Canyon receive stormwater runoff and snowmelt from the mesa top and surrounding areas. One spring, DP Spring, flows from the DP Canyon wall but does not maintain flow into the canyon bottom. A discussion of a wetland in the bottom of DP Canyon is included in Appendix D.

There are no stream gages within the Airport Tract. There are two surface water monitoring stations located on the southern tract boundary, DPS-1 and DPS-4. There is one test well within the tract and one regional aquifer supply well several hundred feet to the southwest.

A portion of the Airport Tract is within the 100-year floodplain. Assessment of this floodplain is included in Appendix D.

11.1.11 Air Resources

Air quality at the Airport Tract is primarily affected by LANL operations at TA 21 and the Los Alamos Neutron Science Center (LANSCE). Pollutant contributions also arise from traffic on East Road and from the airplanes that use the Los Alamos Airport.

The Airport Tract is part of New Mexico Region 3, an attainment area that meets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Except for

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small amounts of carbon monoxide and ozone resulting from hydrocarbons emitted from motor vehicles and airplanes, there are no sources of criteria pollutants within the tract itself.

There are no sources within the tract that emit hazardous or other chemical air pollutants, so concentrations of these pollutants at the tract are the result of other activities, primarily those at TA 21. Analysis shows that about 130 different chemicals have been or are being used at TA 21. However, short-term exposures resulting from inhalation of chemical air pollutants at points along the current boundaries of TA 21 were all estimated to be less than health-based standards (which implies that concentrations at the Airport would likely be lower), and there are no anticipated adverse health effects. Likewise, long-term exposures (such as for sensitive receptors in Los Alamos and nearby areas) also were estimated to be less than health-based standards (DOE 1999c, Chapter 5).

Just off of the eastern edge of this tract is the location of the maximally exposed individual (MEI) for radiation doses from all of LANL's operations. The estimated dose from air pollutants for the MEI in 1997 was 2.2 millirem, which assumes an individual resided there 24 hours per day for 365 days (DOE 1999c). Other years brought higher doses, and the LANL SWEIS analysis estimated a dose of 3.1 millirem. This is at the eastern boundary of the tract. At the western edge, the dose is estimated at about 1.1 millirem (DOE 1999c, Chapter 5).

11.1.11.1 Global Climate Change

At present, this tract has only one heated structure, the terminal building. The building is small, and natural gas consumption is estimated to approximate that for a home. Greenhouse emissions are estimated to consist of only 6 tons (5 metric tons) of carbon dioxide per year.

11.1.12 Human Health

11.1.12.1 The Radiological Environment for the Airport Tract

TA 73, which encompasses the Airport, is the second closest land tract to LANL's LANSCE, which is the primary source of radioactive emissions as measured for the LANL offsite MEI. The eastern tip of this land tract is just a little farther from the LANSCE than the MEI. This tract is currently leased by the County, and LANL has no operational facilities there. The dose to non-LANL personnel on this site from the LANSCE would be less than that to the MEI. The LANL SWEIS estimates doses of 3.1 millirem per year to the MEI, and 1.1 millirem at the western edge of the tract (DOE 1999c, Chapter 5). Doses are thus within the EPA standard of 10 millirem per year. Individuals at the Airport Tract site also are assumed to be Los Alamos residents who would receive the area background dose. Radiological PRSs and other sources of contamination exist on this site, but these have not been completely characterized. This tract has the second highest potential radiation dose of all the land tracts to be considered for conveyance or transfer because of its proximity to the LANSCE.

The Airport Tract lies within one of LANL's one-half mile radiation site evaluation circles due to activities at TA 21 on the neighboring mesa, and within the edge of another such circle due to activities at the LANSCE. The radiation site evaluation circles (see Figure 11.1.12.1-1) were included in LANL's 1990 Site Development Plan (LANL 1990). These circles were intended to be used as planning tools for site developers and other project managers responsible for siting new facilities or operations to inform them of the presence of existing radiation sources and the need to evaluate their proposed action(s) against this information. The circles are not representative of a particular dose of radiation to the Airport

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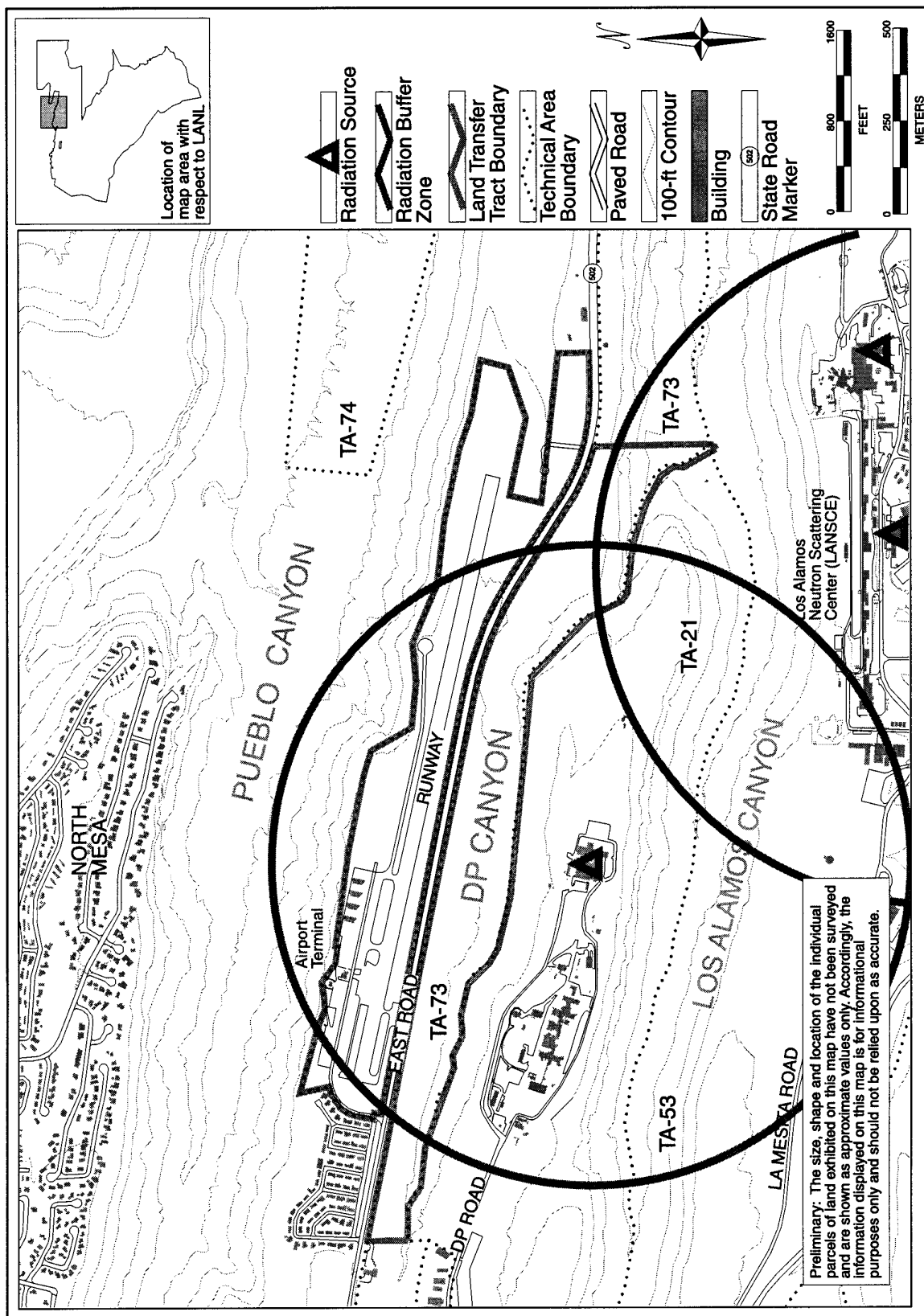


Figure 11.1.12.1-1. Airport Tract Radiation Site Evaluation Circles.

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Tract under either normal or accident conditions, and are noted herein for the purposes of disclosure with regard to the nearest radiation source location relative to the tract. The quantities of radioactive material and other sources of radiation identified by these radiation evaluation circles were evaluated in the 1999 LANL SWEIS, as previously discussed.

11.1.12.2 The Nonradiological Environment for the Airport Tract

Exposures to nonradiological contaminants via an airborne pathway in the LANL vicinity have already been shown not to be significant for the affected environment (DOE 1999c). PRSs and other contamination on this tract may include nonradiological constituents, but the site has not been completely characterized. It is not known if hazardous materials are used on the tract.

11.1.12.3 Facility Accidents

Chemical Accidents

The LANL SWEIS posits six chemical accidents, as discussed in Chapter 4, Section 4.1.12 of this CT EIS. For all postulated accidents, chemical concentrations in the air plume released by the potential accidents would be below both Emergency Response Planning Guideline (ERPG)-3 (life-threatening) and ERPG-2 (serious health effects) by the time air plume reached the Airport Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents have no estimated public consequences at the tract.

Radiological Accidents

There are 13 credible radiological accident scenarios postulated in the LANL SWEIS, as discussed in Chapter 4, Section 4.1.12 of this CT EIS. Using data from the LANL SWEIS, doses to the MEI at the

Airport have been estimated for each of these, as shown in Table 11.1.12.3-1.

Because there are no residents and few public workers at the tract, estimated tract collective dose and estimated excess latent cancer fatality (LCF) are both zero.

Natural Event Accidents

There are five natural event accident scenarios postulated in the LANL SWEIS: four earthquakes and one wildfire. The most severe postulated earthquake (accident SITE-03B) has an estimated frequency of 3×10^{-5} per year, or once every 330,000 years. The earthquake scenario would release chemicals from a number of facilities, including formaldehyde from the Health Research Laboratory (Building 43-01) and chlorine from the chlorinating station within the Los Alamos townsite (Building 00-1109). As discussed for chemical accidents, earthquakes would have no estimated consequences at the Airport Tract. The most severe postulated earthquake, however, would release significant quantities of radioactive materials from several buildings, especially from the Chemistry and Metallurgy Research (CMR) Building (Building 03-29). Radiological consequences are estimated to result in a maximum dose of approximately 30 Roentgen equivalent man (rem) at the tract.

The postulated site wildfire scenario would burn about 8,000 acres (3,240 hectares) within LANL boundaries, or about 30 percent of LANL, including most of Mortandad Canyon and parts of Los Alamos and DP Canyons east of TA 21. Chemical releases would be less severe than in the earthquake scenarios. The largest quantities of radioactive materials would be released from the transuranic (TRU) waste storage domes at Area G. The maximum dose at the Airport is estimated to be about 0.1 rem. Such a wildfire has an estimated frequency of 0.1 per year, or once every 10 years.

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Table 11.1.12.3-1. MEI Doses for the Airport Tract Resulting from Hypothetical Accidents at LANL Facilities

ACCIDENT SCENARIO	ACCIDENT LOCATION	FACILITY	FREQUENCY PER YEAR	MEI DOSE (mrem)	ACCIDENT DESCRIPTION
RAD-01	54-38	RANT	1.6×10^{-3}	67	Fire in the outdoor container storage area
RAD-02	03-29	CMR	1.5×10^{-6}	9,500	Natural gas pipeline failure
RAD-03	18-116	Kiva #3	4.3×10^{-6}	51	Power excursion at the Godiva-IV fast-burst reactor
RAD-05	21-209	TSTA	9.1×10^{-6}	11	Aircraft crash
RAD-07	50-69	WCRR	3.0×10^{-4}	120	Fire in the outdoor container storage area
RAD-08	54-230	TWISP	4.3×10^{-6}	92	Aircraft crash
RAD-09A	54-226	TWISP	4.9×10^{-1}	1	Puncture or drop of average-content drum of transuranic waste
RAD-09B	54-226	TWISP	4.9×10^{-3}	58	Puncture or drop of high-content drum of transuranic waste
RAD-12	16-411	--	1.5×10^{-6}	2,600	Seismic-initiated explosion of a plutonium-containing assembly
RAD-13	18-116	Kiva #3	1.6×10^{-5}	75	Plutonium release from irradiation experiment at the Skua reactor
RAD-15A	03-29	CMR	3.6×10^{-5}	38	Fire in single laboratory
RAD-15B	03-29	CMR	3.2×10^{-5}	690	Fire in entire building wing
RAD-16	03-29	CMR	3.5×10^{-6}	3	Aircraft crash

Notes: mrem = millirem; RANT = Radioactive Assay and Nondestructive Test; TSTA = Tritium Systems Test Assembly; WCRR = Waste Characterization, Reduction, and Repackaging; TWISP = Transuranic Waste Inspectable Storage Project

(Because there are no residents and few public workers at the tract, estimated tract collective dose and estimated excess LCF are both zero for all five natural event accident scenarios.)

11.1.13 Environmental Justice

Any disproportionately high and adverse human health or environmental effects on minority or low-income populations that could result from the actions undertaken by

the DOE are assessed for the 50-mile 80-kilometer) area surrounding LANL, as described in Chapter 3, Section 3.2.1.14.

11.2 No Action Alternative

11.2.1 Land Use

There would be no anticipated change to land use at the Airport Tract under the No Action Alternative. Land use at the tract

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would continue to provide commercial, private, and emergency air transport services. Lease agreements between the DOE and the County of Los Alamos would be anticipated to continue. Land located to the south of State Road 502 would continue to serve as a buffer area for LANL operations.

11.2.1.1 Environmental Restoration

Characterization and cleanup of this tract would take place as described in DOE's *Accelerating Cleanup: Paths to Closure* (DOE 1998c) or similar plans. The plan focuses on completing work at as many contaminated sites as possible by the end of fiscal year 2006, although some LANL sites may take longer. The plan includes input from all major field sites, including LANL.

The DOE has developed preliminary information based on current knowledge of contamination at the Airport Tract, as briefly discussed in the Affected Environment portion of this chapter, Section 11.1.1.1. Information includes estimates of sampling and cleanup costs, decommissioning costs, types and volumes of wastes that would be generated, and length of time required to effect the cleanup. An overview of this preliminary information is set forth in Appendix B of this CT EIS. All information has been extracted from the Environmental Restoration Report (DOE 1999b).

This information indicates that PRS cleanup is likely to include 9 removal actions and in situ containment for 10 former disposal areas. No cleanup is anticipated to be required for the four structures. Cleanup of PRSs is estimated to require more than 6 years for the longest cleanup segment. (Multiple sites can be restored simultaneously, so cleanup duration is determined by the site that requires the most time.) Waste volumes are projected to range to approximately 24,460 cubic yards (18,690 cubic meters). The cost estimate for remedial action at this parcel is about \$28,217,000. This estimate is

based on the information currently available for each PRS or structure, and is subject to change if significantly different information is discovered during the course of investigation or remediation. It should be noted that all PRSs, including those at which no remediation is ultimately required, must be characterized, and the results must be reported to the administrative authority. As a consequence, there are almost always costs and wastes associated with PRSs that do not require actual "cleanup." It is possible that the administrative authority could require additional actions, resulting in greater waste volumes, a longer cleanup duration, and higher costs. It also should be noted that environmental restoration actions and costs represent only a portion of the actions and total costs that may be required for conveyance and transfer of this parcel. These additional costs may be significant.

11.2.2 Transportation

The No Action Alternative would result in no significant changes in traffic volume on Airport Road near the site, other than the anticipated annual growth rate of 1.5 percent as estimated by the U.S. Census Bureau. The future operational performance of Airport Road and East Road would remain similar to that of the existing performance, LOS E (maximum capacity), slowly degrading to LOS F (traffic jam conditions) in year 2020.

The topography of the area also affects traffic flow because the majority of the traffic that passes by the Airport Tract also climbs the mesa on East Road. The mountainous terrain of this climbing section causes a reduction of the road capacity and contributes to the degradation in LOS.

11.2.3 Infrastructure

The No Action Alternative would result in no changes in the infrastructure or utilities of this tract. The Airport would continue to be operated under lease agreement with the

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DOE. The level of utility usage would not change appreciably. Thus, implementation of the No Action Alternative would have no substantial environmental impacts related to infrastructure.

11.2.4 Noise

In the No Action Alternative, the Airport Tract would continue to be used as an airport that services only private and small commercial craft. Ambient noise levels would remain the same as those which currently exist, decreasing from 60 to 70 dBA along State Road 502 to 40 dBA or less along the northern boundary of the tract.

11.2.5 Visual Resources

Under the No Action Alternative, it is expected that the tract would remain much as it is today—that is, airport facilities and forested land would not change, and current visual resources would remain the same.

11.2.6 Socioeconomics

Under the No Action Alternative, there would be no anticipated changes in land use or change in employment on the tract.

11.2.7 Ecological Resources

Under the No Action Alternative, there would be no changes in land use at the Airport Tract, as described in Section 11.1.1. Therefore, no impact to ecological resources is projected under the CT EIS No Action Alternative.

11.2.8 Cultural Resources

Under the No Action Alternative, the Airport Tract would remain the responsibility of the DOE, and the treatment of any cultural resources present would continue to be subject to Federal laws, regulations, guidelines, executive orders, and Pueblo Accords. The use of the Airport Tract

facilities, which may include potentially NRHP-eligible resources, would continue. Planned evaluation of these structures would continue, and information would be available to the DOE to ensure stewardship of these resources. Other positive impacts of the No Action Alternative would be the passive preservation of resources due to lack of development.

Ongoing negative impacts from natural processes (such as erosion, fire, seismic events, and aging of buildings) on the physical integrity of cultural resources would continue. Also, the potential for negative impacts from continued recreational activities (namely hiking), access by the public, and the lack of security would continue. These impacts include unintentional destruction or damage of resources, vandalism, and unauthorized collection of materials and artifacts. These impacts apply both to resources within the tract and to those located nearby but outside of the tract boundary on LANL lands.

11.2.9 Geology and Soils

Consequences would be limited to existing uses. The tract is already developed; no additional utilities, roadwork, or buildings would be required. No soil disturbance or change in availability of resources would be anticipated, except for those associated with environmental restoration activities. Existing structures are vulnerable to greater than magnitude 7 seismic events (as registered on the Richter scale) and wildfire episodes.

11.2.10 Water Resources

Continuation of the current use of this tract by the DOE would be anticipated under this alternative. Consequences to water resources under the No Action Alternative would be no different than those already existing in the affected environment.

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11.2.11 Air Resources

As projected in analyses performed for the LANL SWEIS, air quality at the tract would remain high under the No Action Alternative. Analyses indicate that the Los Alamos region would continue as an attainment area for criteria pollutants—that is, it would continue to comply with NAAQS. Similarly, analyses showed that concentrations of hazardous and other chemical air pollutants would continue to be below health-based standards for any point beyond the LANL technical areas that have chemical airborne emissions. Because there would be no chemical emissions from the Airport, and because the Airport Tract lies outside other technical area boundaries (for example, TA 21), it can be concluded that concentrations of chemical pollutants at the tract also would likely be below health-based standards. Finally, analyses indicate that concentrations of radioactive air pollutants from LANL operations at the Airport Tract would deliver doses between 2.1 (western edge) and 5.4 (eastern edge) millirem per year, or from 21 to 54 percent of the EPA standard (DOE 1999c, Chapter 5).

11.2.11.1 Global Climate Change

The affected environment and No Action Alternative land uses are identical. Hence, carbon dioxide emissions would remain at an estimated 6 tons (5 metric tons) annually.

11.2.12 Human Health

There would be no identifiable human health consequences for the No Action Alternative for the Airport Tract. Radiation doses received at this tract would be estimated to approximately double from today's levels, ranging from 2.1 millirem (at the western edge) to 4.0 millirem (at the eastern edge) per year at the tract (DOE 1999c, Chapter 5). Doses would remain, however, within the EPA standard of 10 millirem per year (DOE 1999c, Chapter 5).

No changes for cancer risk should be expected for this alternative.

No significant nonradiological increases in exposures would be expected. LANL employees should have adequate time to evacuate the premises for floods or for wildfires. Because earthquakes usually come without warning, the human health impacts due to seismic events likely would be greater than flood or wildfire. Seismic events would carry risks of physical injury from building collapses.

11.2.12.1 Chemical Accidents

Accident assessment would be the same as discussed in the Affected Environment section of this chapter. For all postulated accidents, chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time the air plume reached the Airport Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public consequences at the tract.

11.2.12.2 Radiological Accidents

Accident assessment would be the same as discussed in the Affected Environment section of this chapter. The MEI doses would be greater than 500 millirem for 3 of 13 scenarios postulated in the LANL SWEIS. The estimated tract collective dose and estimated excess LCF would both be zero.

11.2.12.3 Natural Event Accidents

Accident assessment would be the same as discussed in the Affected Environment of this chapter. Neither the wildfire nor any of the earthquakes would have chemical consequences, even under adverse weather dispersion conditions. The MEI dose resulting from the postulated wildfire would be about 0.1 rem; the maximum dose from the most severe earthquake would be approximately

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30 rem. Because there are no residents and few public workers at the tract, the estimated tract collective dose and estimated excess LCF would both be zero for all five natural event accident scenarios.

11.2.13 Environmental Justice

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses estimate that air emissions and hazardous chemical and radiological releases from normal LANL operations, which would continue under the No Action Alternative, would be expected to be within regulatory limits and that no excess LCFs would likely result. The human health analyses also indicate that radiological releases from accidents at LANL would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations.

The analyses also indicate that socioeconomic changes resulting from implementing the No Action Alternative would not lead to environmental justice impacts. Employment and expenditures would remain unchanged from the baseline.

11.3 Proposed Action Alternative

There are no DOE facilities or activities on this tract that would need to be relocated or otherwise would be affected by the proposed disposition of this tract, except for several environmental monitoring stations. Environmental effects involved in the relocation of these monitoring stations would be negligible. Under the Proposed Action Alternative, the Airport would transfer to the new owner and would remain operational at least for the duration of the current lease agreement. Therefore, there would be no

direct consequences of the transfer of ownership of the tract other than those associated with potential loss of Federal protection of cultural and ecological resources (see Sections 11.3.7 and 11.3.8 respectively).

Indirect consequences would be anticipated from the subsequent uses of the tract contemplated by the receiving party or parties. The contemplated uses and the associated consequences are discussed in the following sections.

11.3.1 Land Use

11.3.1.1 Description of Contemplated Uses

Land uses contemplated for the Airport Tract include a combination of commercial development and airport, and industrial uses (see Figure 11.3.1.1-1). The following paragraphs provide description of these land uses.

Land use identified for the Airport Tract could include the continued use of approximately 93 acres (38 hectares) to the north of State Road 502 for the Airport and related uses. An area of about 16 acres (6 hectares) to the west and adjacent to the Airport also could be developed for heavy commercial land uses.

Land uses to the south of East Road could include the development of about 90 acres (36 hectares) as an office and business park based on Airport-related industry and potential retail uses. Both the office and business park proposed to the south of East Road and the heavy commercial use proposed to the north of East Road lie in areas of limited development potential due to airport flight and clear zones restricting slope, building height, and other aspects of development. Table 11.3.1.1-1 summarizes the attributes of the land uses proposed for the Airport Tract.

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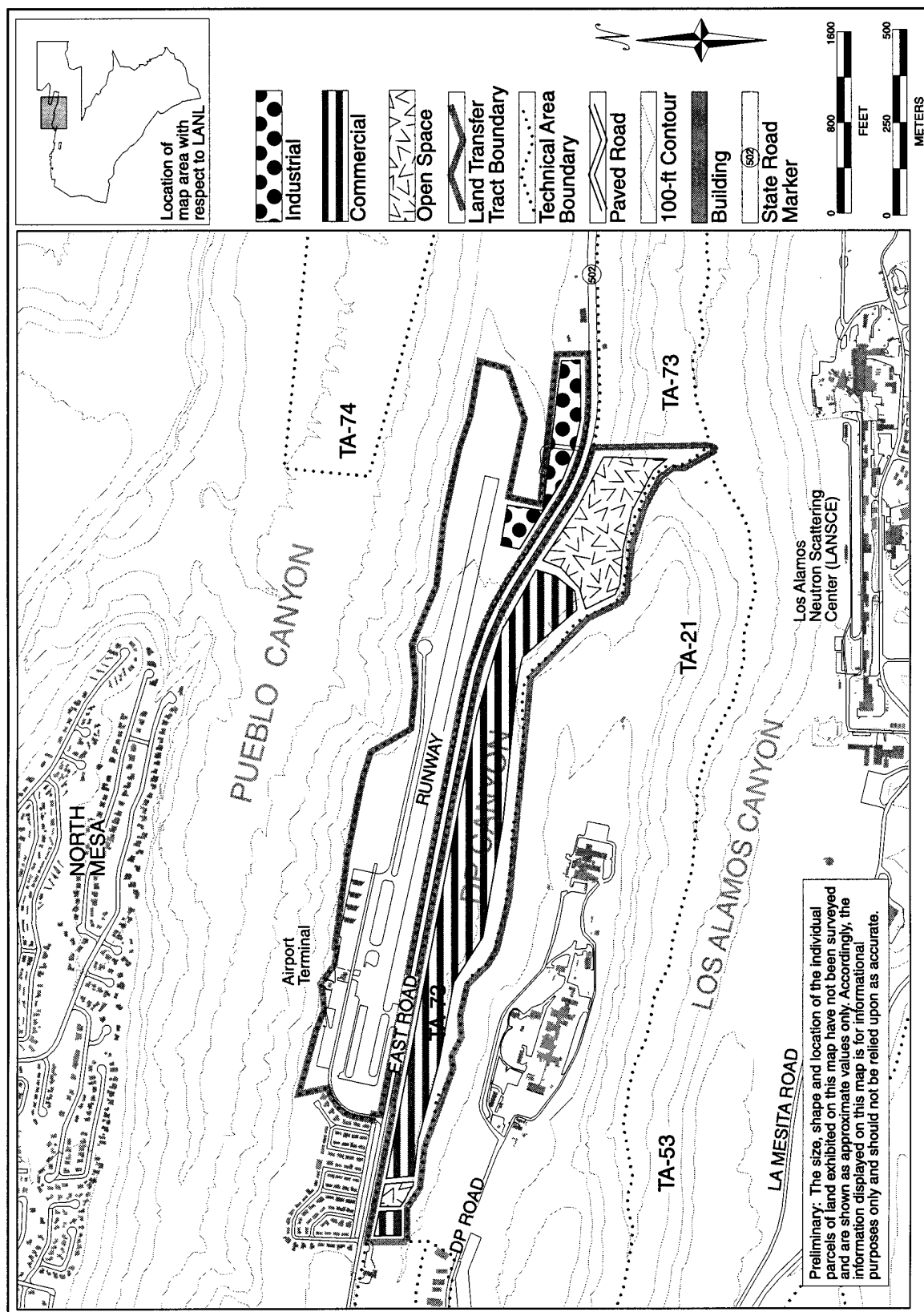


Figure 11.3.1.1-1. Airport Tract Contemplated Land Uses.

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Table 11.3.1.1-1. Attributes of Future Land Uses for the Airport Tract Under the Airport, Commercial, and Industrial Land Use Scenario (North and South of State Road 502)

AIRPORT, COMMERCIAL, AND INDUSTRIAL LAND USE—NORTH OF EAST ROAD	
<ul style="list-style-type: none"> • The Airport, which consists of approximately 93 acres (38 hectares) would continue to dominate land use as a public airport to the north of State Road 502. • An area east of the Airport and also north of State Road 502 (16 acres [6 hectares]) could be developed for industrial land uses. • Because of the location of the Airport at the entryway to the community, some screening and landscaping could be added as a component of the development of the area. 	
COMMERCIAL AND INDUSTRIAL LAND USE—SOUTH OF EAST ROAD	
<ul style="list-style-type: none"> • Areas to the south of East Road (approximately 90 acres [36 hectares]) could be developed as an office and business park based on airport-related industry and/or retail uses. • When fully developed, lands on both sides of East Road would be occupied by 200 businesses with 3,100 total employees and 120 commercial vehicles. 	

11.3.1.2 Environmental Consequences of the Contemplated Uses

There would be little anticipated change in land uses associated with the development proposed for the Airport Tract, where Airport activities would remain the dominant land use. Although these land uses would be disturbed to the north and to the south of State Road 502 under this scenario, retail, commercial, and heavy commercial land use, and/or the continuation of Airport activities would each be viewed as compatible with existing and adjacent land use of the Airport Tract.

11.3.1.3 Environmental Restoration

No additional environmental restoration actions would be required under the Proposed Action Alternative because restoration activities must occur before the tract would be considered suitable for conveyance or transfer.

11.3.2 Transportation

11.3.2.1 Environmental Consequences of the Contemplated Uses

The airport, commercial development and industrial land use scenario anticipates development of additional office and industrial facilities at the Airport Tract. The Institute of Transportation Engineers (ITE) land use codes utilized to estimate the trips generated by these proposed developments were 130, Industrial Park, and 750, Office Park. These ITE land use codes allow estimation of the trips generated by these facilities based on the number of acres proposed for each land use type.

Table 11.3.2.1-1 shows the number of trips the ITE Trip Generation Manual (ITE 1997) estimates could be generated by this development. As shown in the table, the proposed development would add 1,554 entering trips to the Airport Tract and State Road 502 in the weekday morning peak hour and an additional 1,324 exiting trips in the

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Table 11.3.2.1-1. Estimated Increase in Traffic for the Airport, Commercial, and Industrial Land Use Scenario

ITE ESTIMATED TRAFFIC VOLUMES FOR AIRPORT TRACT								
Land Use	ITE Land Use Code	24 Hour Two-Way Volume	Morning Peak Hour Trips		Evening Peak Hour Trips		Saturday Peak Hour Trips	
			Enter	Exit	Enter	Exit	Enter	Exit
Industrial Park 16 acres (6 hectares)	130	1,010	135	28	35	132	24	51
Office Park 90 acres (36 hectares)	750	13,256	1,419	250	298	1,192	0	0
Total		14,266	1,554	278	333	1,324	24	51

weekday evening peak hour. Assuming that all of these trips are new trips results in a doubling of traffic on State Road 502. This would exceed the capacity of State Road 502, causing operating conditions to degrade below LOS F, or traffic jam conditions. Widening State Road 502 to a four-lane section in this area would improve the LOS to E (maximum capacity).

A bridge could be constructed to connect the eastern edge of the TA 21 Tract with the Airport Tract. This connection would improve the ingress and egress to the proposed DP Road commercial area, including this tract. This also would alleviate the traffic problems that currently exist where DP Road intersects with Trinity Drive. However, it would increase the number of trips at the Airport Road-East Road intersection. This scenario would likely require the installation of a traffic signal at the Airport Road-East Road intersection.

11.3.3 Infrastructure

11.3.3.1 Environmental Consequences of the Contemplated Uses

The environmental impacts resulting directly from the disposition of this tract would be minimal with respect to the utilities and infrastructure. The Airport would remain in operation with no change in the utility usage or the infrastructure. Thus, no new impacts to utilities and infrastructure would result directly from conveyance or transfer of this tract. Environmental Consequences of the Contemplated Uses.

The contemplated development, as described in Section 11.3.1.1, would require enhancement of existing utilities. Water, electricity, gas, and sewage lines would need to be extended to service new structures. Additionally, utility usage would increase, though the amount would depend on the type of industries present. As it relates to utilities and infrastructure, the contemplated use is discussed in the following paragraphs.

Indirect environmental impacts with respect to utilities and infrastructure resulting

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from this alternative and associated with this land would include increased utility usage and ground disturbance resulting from construction of new facilities. Utility usage in the existing developments on the Airport Tract would not be expected to change. The contemplated industrial and commercial developments would result in increases in utility usage. The estimated increases are shown in Table 11.3.3.1-1. It is not anticipated that these increases would exceed the capacity for any utility in the region.

The industrial and business park developments would require enhancement of the existing utility lines. Installation of new utility facilities and upgrades to existing ones would require creation of trenches and access and maintenance roads. The construction of roads, parking areas, and buildings, and extension of utility lines would cause soil disturbance. Refer to Section 11.3.9 of this chapter for detail on impacts resulting from ground disturbance from new construction.

11.3.4 Noise

11.3.4.1 Environmental Consequences of the Contemplated Uses

If developed commercially, roads and structures would be constructed. Construction of new facilities would entail ground clearing, excavation, laying of foundations, erection,

and finishing work. The use of heavy equipment such as front-end loaders, concrete mixers, and jackhammers would produce noise levels ranging from 74 to 95 dBA at a distance of 50 feet (15 meters) from the construction site (DOE 1997a, page 36). Construction noises would not be permanent, however. Once fully developed, traffic from employees and other travelers would comprise the majority of noise in the area. Noise levels along State Road 502 would likely remain the same, at about 60 to 70 dBA. Noises along the northern parts of the tract, however, would increase significantly due to increased traffic along new roads and due to commercial and industrial activities in addition to the existing airport activities.

11.3.5 Visual Resources

11.3.5.1 Environmental Consequences of the Contemplated Uses

Contemplated airport, commercial development, and industrial land uses north of East Road would maintain current Scenic Class III, moderate public value for the visual resources. Development in the southern portion of the tract would impact high value Scenic Class II views from the road and from the Airport.

Table 11.3.3.1-1. Estimated Increase in Utility Usage for the Commercial and Industrial Land Use Scenario on the Airport Tract

	PEAK POWER mw	ELECTRICITY gwh	GAS mcf (mly)	WATER mgy (mly)	SEWAGE (BAYO) mgy (mly)	MSW tpy (mty)
Estimated annual increase	1.9	11	110 (3,120)	100 (379)	31 (117)	220 (200)
Available system capacity	5	200	5,040 (142,700)	297 (1,125)	135 (511)	NA

Notes: mw = megawatts, gwh = gigawatt-hours, mcf = million cubic feet, mly = million liters per year, mgy = million gallons per year, tpy = tons per year, msw = municipal solid waste, mty = metric tons per year, NA = not applicable

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11.3.6 *Socioeconomics*

11.3.6.1 **Environmental Consequences of the Contemplated Uses**

The Airport would be expected to continue operating in a similar fashion under this alternative. Employment would remain the same. Some of the land could be used for industrial and commercial development. There would be short-term increases in area employment and income associated with the construction of facilities and long-term increases once the facilities are operational. Approximately 3,100 workers would be employed on the tract and 4,327 jobs would be generated in the ROI, which would in turn increase ROI income. Because these jobs would be filled by the existing ROI labor force, there would be no impact on area population or increase in the demand for housing or public services in the ROI.

11.3.7 *Ecological Resources*

Direct ecological impacts of the conveyance or transfer itself would be limited to the changes in responsibility for resource protection. Environmental review and protection processes for future activities would not be as rigorous as those which govern DOE activities.

11.3.7.1 **Environmental Consequences of the Contemplated Uses**

Continued use of the 93 acres (38 hectares) for the Airport and support activities would not change the natural resource environment, and development of the 16 acres (6 hectares) to the west would have small impact. The development of the remaining approximately 90 acres (36 hectares) on the mesa could contribute to the isolation of the DP Canyon habitat to slopes and canyon bottoms. Approximately 90 acres (36 hectares) of primarily ponderosa pine forest and pinyon-juniper woodland

could be converted to developed areas or landscaping.

Highly mobile wildlife species or wildlife species with large home ranges (such as deer, elk, and birds) would be able to relocate to adjacent undeveloped areas. However, successful relocation may not occur due to competition for resources to support the increased population and the carrying capacity limitations of areas outside the proposed development area. Species relocation may result in additional pressure to lands already at or near carrying capacity. The impacts could include overgrazing, stress, and overwintering mortality. For less-mobile species (reptiles, amphibians, and small mammals), direct mortality could occur during the actual construction event or ultimately result from habitat alteration. The loss of acreage due to development would result in a reduction of breeding and foraging habitat for wildlife currently utilizing the property. The developed tract also would be lost as potential hunting habitat for raptors and other predators. In addition to the area to be disturbed, there would be a decrease in quality of the habitat immediately adjacent to the proposed development due to increased noise level, traffic, lights, and other human activity, both pre- and post-construction.

Development in this tract could result in the direct loss of wetland vegetation and function. Even if construction and development does not occur in the wetland, indirect impacts such as additional surface runoff from an increase of impermeable surface areas (pavement), resulting in accelerated streambed erosion and increased downstream and offsite sedimentation could occur.

There are three species that are Federal-listed as threatened or endangered that may potentially use the Airport Tract area: the bald eagle, American peregrine falcon, and the Mexican spotted owl. With respect to the bald eagle, this area has a very low level of potential use for foraging. Development of

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this tract, which is within the AEI (DP, Los Alamos, and Pueblo Canyons) for both the American peregrine falcon and Mexican spotted owl, may alter the foraging behavior of these species. For the Mexican spotted owl, loss of the entire tract would affect approximately 5 acres (2 hectares) of core habitat and 120 acres (49 hectares) of buffer habitat in the Los Alamos Canyon AEI and overlapping Pueblo Canyon AEI habitat consisting of 52 acres (21 hectares) of core habitat and 143 acres (58 hectares) of buffer habitat. Approximately 154 acres (62 hectares) and 9 acres (4 hectares) of American peregrine falcon AEI core habitat in Pueblo Canyon and Los Alamos Canyon, respectively, and 44 acres (18 hectares) of Pueblo Canyon AEI buffer habitat overlapping the Airport Tract area could be affected (PC 1999d). Because direct entry into the adjacent Los Alamos Canyon and Pueblo Canyon habitat would require descending a steep cliff face, increased recreational use is expected to be limited. Therefore, recreational impacts to the adjacent Los Alamos and Pueblo Canyons natural habitat would be expected to be minor. DP Canyon may receive increased recreational use because it would be fronted by development in areas now vacant.

The watershed management approach to natural resource management requires the integration of natural resource management plans across several land management agencies. The current lack of a natural resources management plan by either the County of Los Alamos or the Pueblo of San Ildefonso would impede the development of an integrated, multiagency approach to short- and long-term natural resource management strategies for the DP Canyon, Los Alamos Canyon, and Pueblo Canyon watersheds.

11.1.8 Cultural Resources

Direct impacts of the conveyance and transfer itself to cultural resources would result from the transfer of known and

unidentified cultural resources out of the responsibility and protection of the DOE.

First, under the Criteria of Adverse Effect (36 Code of Federal Regulations [CFR] 800.5(a)(1)), the transfer, lease, or sale of NRHP-eligible cultural resources out of Federal control is an adverse effect. Eligible cultural resources are present in the Airport Tract that could be directly impacted by the Federal action.

Second, the conveyance and transfer of this tract could potentially impact the cultural resources by removing these resources from future consideration under the *National Historic Preservation Act*.

Third, the disposition of this tract may affect the protection and accessibility to Native American sacred sites and sites needed for the practice of any traditional religion by removing them from consideration under the *Religious Freedom Restoration Act*, *American Indian Religious Freedom Act*, and Executive Order 13007, "Indian Sacred Sites." Finally, the disposition for this tract would affect the treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony that may be discovered on the tract. This impact would result from removing these resources from consideration under the *Native American Graves Protection and Repatriation Act*, or from changing the way this act is applied to these remains and objects. Indirect consequences are discussed in the following sections.

11.1.8.1 Environmental Consequences of the Contemplated Uses

Indirect impacts to cultural resources would be anticipated from the land use contemplated for Airport Tract by the receiving parties. This analysis reflects the broad, planning-level impacts anticipated from this contemplated use.

Under the airport, commercial, and industrial development scenario, portions of

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the tract would be extensively altered by construction activities, grading, and trenching. These activities could result in primary impacts to eligible resources through physical destruction, demolition, damage, or alteration. Resources avoided by construction may be isolated or have their setting disturbed by the introduction of elements out of character with the resource, such as visual and audible intrusions. The development of land may cause changes to the presence or integrity of, or access to natural resources utilized by traditional communities for subsistence, religious, or other cultural activities.

11.1.9 *Geology and Soils*

11.1.9.1 **Environmental Consequences of the Contemplated Uses**

The contemplated use for Airport Tract is airport, commercial development, and industrial, which would require ground disturbance for construction of buildings and installation of utilities. Both existing and new structures would be vulnerable to greater than magnitude 7 seismic events (as registered on the Richter scale) and wildfire episodes.

11.1.10 *Water Resources*

Transfer of this tract would not directly affect surface water or groundwater quantity or quality. These resources may be indirectly affected, however, if development is pursued, as discussed in the following sections.

11.1.10.1 **Environmental Consequences of the Contemplated Uses**

The contemplated land uses would not affect groundwater quality or quantity beneath the tract, but any associated increased water usage may contribute to the overall regional water level decline and possibly result in degradation of water quality within the aquifer.

Surface water quality may be indirectly affected if the contemplated land use is

pursued. Development and construction may potentially affect surface water quality within and downstream of the tract. Surface water quality could be impacted during construction and development of the tract because stormwater runoff may increase over areas that have been denuded and carry sediments and surface contaminants into the drainages.

11.1.11 *Air Resources*

11.1.11.1 **Environmental Consequences of the Contemplated Uses**

If this tract were developed commercially and industrially, new roads and structures would be constructed. The tract itself would have increased emissions of criteria pollutants due to space heating, increased motor vehicle traffic, and, perhaps, steam-generating boilers. However, ambient air concentrations would likely remain within Federal and State standards, and the Los Alamos region would remain an attainment area. Emissions of hazardous and other chemical air pollutants would likely be absent or regulated. If there are emissions from any new businesses on this large tract of land, those emissions would be subject to Federal and State new-source performance standards. Sources would require an air permit and pollution control measures if emissions exceed certain minimum values. Therefore, regulations, permits, and controls would keep emissions below levels hazardous to human health. It is assumed that there would be no new sources of radioactive air pollutants; in which case, inhalation of radioactive air emissions from LANL would be the same as in the No Action Alternative, ranging from 2.1 (western edge) to 5.4 (eastern edge) millirem per year, or from 21 percent to 54 percent of the EPA standard.

11.1.11.2 **Global Climate Change**

Contemplated land use includes retention of the airport, and commercial and industrial development of 105 acres (43 hectares) of land. An estimated 200 new businesses,

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mostly firms in office buildings, could be placed on this tract. These businesses would employ more than 3,000 and would require a combined fleet of 120 commercial vehicles (pick-up trucks, vans, and automobiles). Vehicular use and space and water heating combined would result in estimated emissions of about 6,900 tons (6,258 metric tons) of carbon dioxide annually (versus 6 tons [5 metric tons] per year in the No Action Alternative).

11.1.12 Human Health

11.1.12.1 Environmental Consequences of the Contemplated Uses

Commercial development would bring an estimated 3,100 new workers into closer proximity to LANL facilities, thereby increasing the number of members of the public exposed to radiological and chemical air pollutants emitted by LANL operations. While all doses would be within health-based standards established by other Federal agencies, the closer proximity would increase radiation dose received by the collective population within a 50-mile (80-kilometer) radius of LANL. In addition, closer public proximity would result in greater public consequences from some hypothetical accidents at LANL facilities.

Radiation doses received by workers at the Airport Tract would range from 2.1 millirem (at the western edge) and 5.4 millirem (at the eastern edge) per year at this tract (DOE 1999c, Chapter 5). Because this tract lies within the radiation site evaluation circle for TA 21, however, use of the undeveloped areas of the tract may require additional consideration.

No changes in cancer risk should be expected. Nonradiological exposures would be expected to be below health-based standards. New workers would face the same hazards to floods and wildfires as workers now do, and should have adequate time to

evacuate the premises. Seismic events come without warning, and would carry risks of physical injury from building collapses.

11.1.12.2 Chemical Accidents

Accident assessment would be the same as described in the No Action Alternative. For all postulated accidents, chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time the air plume reached the Airport Tract, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public consequences at the tract.

11.1.12.3 Radiological Accidents

Subsequent to transfer of ownership, the MEI dose at this tract would be the same as described in the No Action Alternative. MEI doses would be greater than 200 millirem for 4 of 13 scenarios postulated in the LANL SWEIS: 17 rem for RAD-02 (natural gas pipeline failure, explosion, and fire at the CMR Building), 200 millirem for RAD-07 (fuel leak and fire at the Waste Characterization, Reduction, and Repackaging [WCRR] Facility), 8 rem for RAD-12 (plutonium release from the Dual Axis Radiographic Hydrodynamic Test [DARHT] Facility during an earthquake), and 1.1 rem for RAD-15B (explosion followed by fire in an entire wing of the CMR Building).

Under the contemplated land use scenario, there would be substantial increases in collective tract dose and excess LCFs. For example, the LANL SWEIS estimated a collective population dose of 120,000 person-rem for all people living within a 50-mile (80-kilometer) radius of LANL, resulting in an estimated 57 excess LCFs for hypothetical accident RAD-02. This would increase by another 12,000 person-rem and six excess LCFs under the development scenarios for the Airport Tract. Table 11.3.12.3-1 compares the

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estimated additional consequences of all hypothetical radiological accidents.

11.1.12.4 Natural Event Accidents

Natural event accidents would have no estimated chemical consequences at the Airport Tract. For the postulated accidents (wildfire and four earthquake scenarios), chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) concentrations by the time any air plume would reach the tract, even under adverse weather dispersion conditions.

MEI doses would be the same as described in the No Action Alternative. The maximum dose resulting from the postulated wildfire would be about 0.1 rem; that from the most severe earthquake would be about 30 rem. If the tract were developed commercially, however, there would be significant increases in collective tract dose and excess LCFs. The most severe earthquake would result in an estimated tract collective dose greater than 30,000 person-rem and in approximately 20 excess LCFs. These exposures would be in addition to those

Table 11.3.12.3-1. Additional Accident Consequences Associated with Airport, Commercial, and Industrial Land Use Scenario on the Airport Tract

				AIRPORT, COMMERCIAL, AND INDUSTRIAL LAND USE ^a		SWEIS ESTIMATES ^b	
Accident Scenario	Accident Location	Facility	Frequency per Year	Collective Dose ^c	Excess LCF	Collective Dose ^c	Excess LCF
RAD-01	54-38	RANT	1.6×10^{-3}	83	0.04	72	0.04
RAD-02	03-29	CMR	1.5×10^{-6}	12,000	5.9	120,000	57
RAD-03	18-116	Kiva #3	4.3×10^{-6}	63	0.03	100	0.06
RAD-05	21-209	TSTA	9.1×10^{-6}	13	0.01	24	0.01
RAD-07	50-69	WCRR	3.0×10^{-4}	150	0.07	1,300	0.69
RAD-08	54-230	TWISP	4.3×10^{-6}	110	0.06	400	0.2
RAD-09A	54-226	TWISP	4.9×10^{-1}	1	0	4	0
RAD-09B	54-226	TWISP	4.9×10^{-3}	72	0.04	230	0.12
RAD-12	16-411	--	1.5×10^{-6}	3,200	1.6	35,800	18
RAD-13	18-116	Kiva #3	1.6×10^{-5}	93	0.05	160	0.08
RAD-15A	03-29	CMR	3.6×10^{-5}	47	0.02	175	0.09
RAD-15B	03-29	CMR	3.2×10^{-5}	860	0.43	3,400	1.7
RAD-16	03-29	CMR	3.5×10^{-6}	4	0	56	0.03

Notes: mrem = millirem; RANT = Radioactive Assay and Nondestructive Test; TSTA = Tritium Systems Test Assembly; TWISP = Transuranic Waste Inspectable Storage Project

^a In addition to doses estimated in the LANL SWEIS.

^b For the entire population within a 50-mile (80-kilometer) radius of LANL.

^c Person-rem.

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estimated in the LANL SWEIS (340,000 person-rem and 230 excess LCFs for SITE-03B).

11.1.13 Environmental Justice

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses for the contemplated land uses estimate that air emissions and hazardous chemical and radiological releases from LANL operations would be expected to be within regulatory limits and that no excess LCFs would likely result. The human health analyses also indicate that radiological releases from accidents would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations with regard to implementing the contemplated land uses on this tract.

The analyses also indicate that socioeconomic changes resulting from implementing the Proposed Action Alternative would not lead to environmental justice impacts. Under the Proposed Action Alternative, modest economic benefits would arise from the additional jobs created during construction and operation of the new facility. Secondary effects would include small increases in business activity and would likely increase revenues to local governments. Each of these impacts would be positive and would not disproportionately affect environmental justice.

The analysis of impacts to cultural resources indicates that TCPs could be present on the tract or in adjacent areas. If present, TCPs could be impacted by the conveyance or transfer or by subsequent land uses. Consultations to determine the presence of these resources have not been completed,

and the degree to which these resources may be impacted has not been ascertained. Impacts to TCPs potentially may cause disproportionately high or adverse effects on minority or low-income communities, but these effects cannot be determined at this point in the consultation process.

11.1.14 Irreversible and Irretrievable Commitment of Resources

This section describes the major irreversible and irretrievable commitments of resources that can be identified at the level of analysis conducted for this CT EIS. A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations.

The actual conveyance or transfer of the Airport Tract would not immediately cause any irreversible or irretrievable commitments of resources. Subsequent commercial and industrial development would, however, cause irreversible deterioration of the visual environment along East Road.

New development also would cause the irretrievable commitment of resources during construction and operation of new businesses and office buildings. Construction of these buildings would require the irretrievable commitment of standard building materials such as lumber and roofing materials. Energy consumption would be expended in the form of natural gas and electricity. Additional water also would be consumed. In addition, continued use of the existing airport facilities would maintain the irretrievable commitment of resources currently utilized to operate the Airport.

11.1.15 Unavoidable Adverse Environmental Impacts

The actual conveyance or transfer of the Airport Tract could result in the loss of

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certain Federal protections for cultural resources on the tract. Loss of these protections could be considered an unavoidable adverse impact to these resources because development of previously undisturbed areas could result in physical destruction, damage, or alteration of cultural resources on the tract. The conveyance or transfer of this tract could result in the loss of certain Federal protections for ecological resources and consideration of these resources in planning future activities on the tract.

Subsequent commercial and industrial use of currently undeveloped portions of the tract would have unavoidable adverse impacts in several resource areas. One such impact would be deterioration of the visual environment within the tract, from adjacent residential areas, and from more distant vistas.

Development also would cause adverse impact through the increased need for and use of utilities. Increased demand for water, solid waste, and sewage services would have adverse effects in the immediate Los Alamos region by lowering the aquifer level more quickly, shortening the remaining lifetime of the County landfill, and increasing both the quantities of sewage that require treatment and the quantities of treated sewage discharged to the environment. The environmental effects of increased demand for electricity and natural gas would be felt elsewhere (in the Four Corners region, for example), in the form of increased emissions of air pollutants in order to generate electricity. Increased consumption of natural gas adds to global climate change through increased emissions of carbon dioxide.

Development also would lead to increased traffic by increasing the labor force within the County. The addition of an estimated 3,000 new workers would result in a 20 to 25 percent increase in commuter traffic, with attendant increases in congestion and traffic noises during daylight hours. Noise levels

would increase substantially within the Airport Tract with the coming and going of the work force and, especially, delivery vehicles that include would large trucks, vans, and tractor trailers.

Development would bring more members of the public into closer proximity to LANL facilities, thereby increasing the number of people exposed to radiological and chemical air pollutants emitted by LANL operations. The location is not far from the Small Business Center Annex (on East Gate Drive), the location of LANL's MEI due to radiological air emissions from the LANSCE on the adjacent mesa. While all doses would be within health-based standards established by other Federal agencies, the closer proximity also would increase radiation dose received by the collective population within a 50-mile (80-kilometer) radius of LANL. In addition, closer public proximity would result in greater public consequences from some hypothetical accidents at LANL facilities.

Finally, commercial and industrial development would increase the potential for degradation of surface water quality. Standard mitigation measures, however, can limit both short- and long-term impacts to surface water quality.

11.1.16 Relationship Between Local Short-Term Use of the Environment and the Maintenance of Long-Term Productivity

The actual conveyance or transfer of the Airport Tract would not immediately cause any specific impacts on short-term uses of the environment. The tract is located immediately adjacent to the Los Alamos townsite, adjacent to areas already developed residentially and commercially. Additional commercial and industrial development use would, therefore, not be incompatible with the long-term uses of the land.